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FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 12:35:45 ON 19 DEC 2002

L1 40 S LABEL? (3A) POSITIV? (5A) PHOSPHAT?
L2 4 S L1 AND NUCLEIC ACID

=> s label? (4a) charg?
L3 1695 LABEL? (4A) CHARG?

=> s l3 and terminal
L4 450 L3 AND TERMINAL

=> s l4 and 3(2a) terminal
L5 55 L4 AND 3(2A) TERMINAL

=> s l5 and nucleic acid
3 FILES SEARCHED...
L6 43 L5 AND NUCLEIC ACID

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7 43 DUP REM L6 (0 DUPLICATES REMOVED)

=> d l7 bib abs 1-43

L7 ANSWER 1 OF 43 USPATFULL
AN 2002:329806 USPATFULL
TI Invasion assays
IN Hall, Jeff G., Madison, WI, UNITED STATES
Lyamichev, Victor I., Madison, WI, UNITED STATES
Mast, Andrea L., Madison, WI, UNITED STATES
Brow, Mary Ann D., Madison, WI, UNITED STATES
PI US 2002187486 A1 20021212
AI US 2001-33297 A1 20011102 (10)
RLI Continuation of Ser. No. US 1999-350597, filed on 9 Jul 1999, PENDING Continuation of Ser. No. US 1997-823516, filed on 24 Mar 1997, GRANTED, Pat. No. US 5994069 Continuation-in-part of Ser. No. US 1996-756038, filed on 26 Nov 1996, ABANDONED Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996, GRANTED, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, GRANTED, Pat. No. US 5846717
DT Utility
FS APPLICATION
LREP MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 121 Drawing Page(s)
LN.CNT 10560
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby

indicating the presence of specific **nucleic acid** sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of **nucleic acid** molecules based on charge. The present invention also provides methods for the detection of non-target cleavage products via the formation of a complete and activated protein binding region. The invention further provides sensitive and specific methods for the detection of human cytomegalovirus **nucleic acid** in a sample.

L7 ANSWER 2 OF 43 USPATFULL
AN 2002:322438 USPATFULL
TI Mobility-modified nucleobase polymers and methods of using same
IN Woo, Sam L., Redwood City, CA, UNITED STATES
Graham, Ron, San Ramon, CA, UNITED STATES
Tian, Jing, Mountain View, CA, UNITED STATES
PI US 2002182602 A1 20021205
AI US 2001-836704 A1 20010416 (9)
DT Utility
FS APPLICATION
LREP PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711
CLMN Number of Claims: 60
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 3548
AB The present invention relates generally to nucleobase polymer functionalizing reagents, to mobility-modified sequence-specific nucleobase polymers, to compositions comprising a plurality of mobility-modified sequence-specific nucleobase polymers, and to the use of such polymers and compositions in a variety of assays, such as, for example, for the detection of a plurality of selected nucleotide sequences within one or more target nucleic acids. The mobility-modifying polymers of the present invention include phosphoramidite reagents which can be joined to other mobility-modifying monomers and to sequence-specific oligonucleobase polymers via uncharged phosphate triester linkages. Addition of the mobility-modifying phosphoramidite reagents of the present invention to oligonucleobase polymers results in unexpectedly large effects the mobility of those modified oligonucleobase polymers, especially upon capillary electrophoresis in non-sieving media.

L7 ANSWER 3 OF 43 USPATFULL
AN 2002:272801 USPATFULL
TI Compositions and methods for the therapy and diagnosis of colon cancer
IN Stolk, John A., Bothell, WA, UNITED STATES
Xu, Jiangchun, Bellevue, WA, UNITED STATES
Chenault, Ruth A., Seattle, WA, UNITED STATES
Meagher, Madeleine Joy, Seattle, WA, UNITED STATES
PA Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)
PI US 2002150922 A1 20021017
AI US 2001-998598 A1 20011116 (9)
PRAI US 2001-304037P 20010710 (60)
US 2001-279670P 20010328 (60)
US 2001-267011P 20010206 (60)
US 2000-252222P 20001120 (60)
DT Utility
FS APPLICATION
LREP SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092
CLMN Number of Claims: 17

09567863

ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 9233
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for the therapy and diagnosis of cancer, particularly colon cancer, are disclosed. Illustrative compositions comprise one or more colon tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly colon cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 4 OF 43 USPATFULL
AN 2002:243171 USPATFULL
TI Methods for sequencing proteins
IN Schneider, Luke V., Half Moon Bay, CA, UNITED STATES
Hall, Michael P., San Carlos, CA, UNITED STATES
Peterson, Jeffrey N., Foster City, CA, UNITED STATES
PA Target Discovery, San Carlos, CA (U.S. corporation)
PI US 2002132357 A1 20020919
AI US 2002-68359 A1 20020206 (10)
RLI Division of Ser. No. US 2000-513395, filed on 25 Feb 2000, GRANTED, Pat. No. US 6379971
PRAI US 1999-130238P 19990420 (60)
US 1998-75715P 19980224 (60)
DT Utility
FS APPLICATION
LREP TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834
CLMN Number of Claims: 30
ECL Exemplary Claim: 1
DRWN 11 Drawing Page(s)
LN.CNT 1724
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides a method for protein sequencing using mass spectrometry. Also provided are protein labeling agents and labeled proteins for use in conjunction with the present method.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 5 OF 43 USPATFULL
AN 2002:243062 USPATFULL
TI N-**terminal** and C-**terminal** markers in nascent proteins
IN Rothschild, Kenneth J., Newton, MA, UNITED STATES
Gite, Sadanand, Cambridge, MA, UNITED STATES
Olejnik, Jerzy, Brookline, MA, UNITED STATES
PA AmberGen, Inc. (U.S. corporation)
PI US 2002132248 A1 20020919
AI US 2001-973145 A1 20011009 (9)
RLI Continuation of Ser. No. US 1999-382950, filed on 25 Aug 1999, GRANTED, Pat. No. US 6303337
DT Utility
FS APPLICATION
LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, 94105
CLMN Number of Claims: 48
ECL Exemplary Claim: 1
DRWN 36 Drawing Page(s)

09567863

LN.CNT 4518
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to non-radioactive markers that facilitate the detection and analysis of nascent proteins translated within cellular or cell-free translation systems. Nascent proteins containing these markers can be rapidly and efficiently detected, isolated and analyzed without the handling and disposal problems associated with radioactive reagents. Methods are described for incorporating N-**terminal**, C-**terminal** and (optionally) affinity markers into a nascent protein

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 6 OF 43 USPATFULL
AN 2002:243051 USPATFULL
TI Compositions and methods for the therapy and diagnosis of ovarian cancer
IN Algate, Paul A., Issaquah, WA, UNITED STATES
Jones, Robert, Seattle, WA, UNITED STATES
Harlocker, Susan L., Seattle, WA, UNITED STATES
PA Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)
PI US 2002132237 A1 20020919
AI US 2001-867701 A1 20010529 (9)
PRAI US 2000-207484P 20000526 (60)
DT Utility
FS APPLICATION
LREP SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 25718
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for the therapy and diagnosis of cancer, particularly ovarian cancer, are disclosed. Illustrative compositions comprise one or more ovarian tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly ovarian cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 7 OF 43 USPATFULL
AN 2002:236261 USPATFULL
TI Charge tags and the separation of **nucleic acid** molecules
IN Lyamichev, Victor, Madison, WI, UNITED STATES
Skrzpczynski, Zbigniew, Verona, WI, UNITED STATES
Allawi, Hatim T., Madison, WI, UNITED STATES
Wayland, Sarah R., Madison, WI, UNITED STATES
Takova, Tsetska, Madison, WI, UNITED STATES
Neri, Bruce P., Madison, WI, UNITED STATES
PA Third Wave Technologies, Inc. (U.S. corporation)
PI US 2002128465 A1 20020912
AI US 2001-777430 A1 20010206 (9)
RLI Continuation-in-part of Ser. No. US 1999-333145, filed on 14 Jun 1999, PENDING Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567
DT Utility
FS APPLICATION
LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA,

94105
CLMN Number of Claims: 86
ECL Exemplary Claim: 1
DRWN 46 Drawing Page(s)
LN.CNT 5163
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel phosphoramidites, including positive and neutrally charged compounds. The present invention also provides charge tags for attachment to materials including solid supports and nucleic acids, wherein the charge tags increase or decrease the net charge of the material. The present invention further provides methods for separating and characterizing molecules based on the charge differentials between modified and unmodified materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 8 OF 43 USPATFULL
AN 2002:221966 USPATFULL
TI Dwf5 mutants
IN Choe, Sunghwa, Seoul, KOREA, REPUBLIC OF
Feldmann, Kenneth A., Newbury Park, CA, UNITED STATES
PI US 2002120111 A1 20020829
AI US 2001-817774 A1 20010326 (9)
PRAI US 2000-192202P 20000327 (60)
DT Utility
FS APPLICATION
LREP ROBINS & PASTERNAK LLP, 545 MIDDLEFIELD ROAD, SUITE 180, MENLO PARK, CA, 94025
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 17 Drawing Page(s)
LN.CNT 2583
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Dwarf5 (dwf5) mutants and methods of using the same are disclosed. The dwf5 polynucleotides can be used in the production of transgenic plants which display at least one dwf5 phenotype, so that the resulting plants have altered structure or morphology. Also described is the DWF5 genomic sequence.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 9 OF 43 USPATFULL
AN 2002:171858 USPATFULL
TI Antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins
IN Fields, Howard A., Marietta, GA, UNITED STATES
Khudyakov, Yury E., Duluth, GA, UNITED STATES
PI US 2002090607 A1 20020711
AI US 2001-758308 A1 20010110 (9)
PRAI WO 1999-US1558 19990709
US 1998-92339P 19980710 (60)
DT Utility
FS APPLICATION
LREP Gwendolyn D. Spratt, Esq., Needle & Rosenberg, P.C., The Candler Building, Suite 1200, 127 Peachtree Street, N.E., Atlanta, GA, 30303-1811
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1488
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Antigenic epitopes of hepatitis C virus (HCV) and mosaic HCV polypeptides useful as reagents in assays for the diagnosis or

monitoring of HCV in a biological sample. The antigenic epitopes and mosaic polypeptides are also useful for the construction of immunogenic pharmaceutical compositions, such as vaccines. The mosaic polypeptides are artificial composite proteins constructed from diagnostically relevant antigenic regions derived from different HCV proteins. Preferably, the mosaic polypeptides contain antigenic epitopes from the core protein, NS3 protein, and NS4 protein. The preferred mosaic polypeptides optionally contain an additional antigenic epitope from either the NS4 protein or the NS5a protein or both.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 10 OF 43 USPATFULL
AN 2002:85688 USPATFULL
TI Novel reovirus-derived proteins and uses therefor
IN Duncan, Roy, Nova Scotia, CANADA
PI US 2002045734 A1 20020418
AI US 2001-943002 A1 20010831 (9)
RLI Continuation of Ser. No. US 1997-965708, filed on 7 Nov 1997, PENDING
DT Utility
FS APPLICATION
LREP SMART & BIGGAR, 900-55 Metcalfe Street, P.O. Box 2999, Station D, Ottawa, ON, K1P 5Y6
CLMN Number of Claims: 42
ECL Exemplary Claim: 1
DRWN 3 Drawing Page(s)
LN.CNT 1542
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In accordance with the present invention, viral proteins that are responsible for membrane fusion and syncytium formation induced by three different fusogenic orthoreoviruses, i.e., avian reoviruses (ARV), Nelson Bay virus (NBV), and Baboon Reovirus (BRV), have been identified. The genes encoding these proteins have been cloned and sequenced; functional analysis thereof indicates that expression of these proteins in transfected cells results in cell-cell fusion.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 11 OF 43 USPATFULL
AN 2002:60903 USPATFULL
TI METHODS AND COMPOSITIONS FOR DETECTION OR QUANTIFICATION OF **NUCLEIC ACID** SPECIES
IN DRMANAC, RADOJE, PALO ALTO, CA, UNITED STATES
PA Hyseq, Inc. (U.S. corporation)
PI US 2002034737 A1 20020321
AI US 1997-947779 A1 19971009 (8)
RLI Continuation-in-part of Ser. No. US 1997-912885, filed on 15 Aug 1997, PENDING Continuation-in-part of Ser. No. US 1997-892503, filed on 14 Jul 1997, PENDING Continuation-in-part of Ser. No. US 1997-812951, filed on 4 Mar 1997, GRANTED, Pat. No. US 6297006 Continuation-in-part of Ser. No. US 1997-912885, filed on 15 Aug 1997, PENDING
DT Utility
FS APPLICATION
LREP JOSEPH A. WILLIAMS, JR., MARSHALL, O'TOOLE, GERSTEIN, MURRAY & BORUN, 6300 SEARS TOWER, 233 SOUTH WACKER DRIVE, CHICAGO, IL, 60606-6402
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 4278
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to oligonucleotide probes attached to discrete particles wherein the particles can be grouped into a plurality of sets

based on a physical property. A different probe is attached to the discrete particles of each set, and the identity of the probe is determined by identifying the discrete particles from their physical property. The physical property includes any that can be used to differentiate the discrete particles, and includes, for example, size, flourescence, radioactivity, electromagnetic **charge**, or absorbance, or **label**(s) may be attached to the particle such as a dye, a radionuclide, or an EML. In a preferred embodiment, discrete particles are separated by a flow cytometer which detects the size, charge, flourescence, or absorbance of the particle. The invention also relates to methods using the probes complexed with the discrete particles to analyze target nucleic acids.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 12 OF 43 USPATFULL
AN 2002:254176 USPATFULL
TI Detection of nucleic acids by multiple sequential invasive cleavages 02
IN Hall, Jeff G., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Mast, Andrea L., Madison, WI, United States
Brow, Mary Ann D., Madison, WI, United States
PA Third Wave Technologies, Inc, Madison, WI, United States (U.S. corporation)
PI US 6458535 B1 20021001
AI US 1999-350597 19990709 (9)
RLI Continuation of Ser. No. US 1997-823516, filed on 24 Mar 1997, now patented, Pat. No. US 5994069 Continuation-in-part of Ser. No. US 1996-759038, filed on 2 Dec 1996, now patented, Pat. No. US 6090543 Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996, now patented, Pat. No. US 5085557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, now patented, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717, issued on 8 Dec 1998
DT Utility
FS GRANTED
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Souaya, Jehanne
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 27
ECL Exemplary Claim: 1
DRWN 170 Drawing Figure(s); 128 Drawing Page(s)
LN.CNT 13831
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific **nucleic acid** sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of **nucleic acid** molecules based on charge. The present invention also provides methods for the detection of non-target cleavage products via the formation of a complete and activated protein binding region. The invention further provides sensitive and specific methods for the detection of human cytomegalovirus **nucleic acid** in a sample.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 13 OF 43 USPATFULL
AN 2002:95611 USPATFULL
TI Methods for sequencing proteins
IN Schneider, Luke V., Half Moon Bay, CA, United States
Hall, Michael P., San Carlos, CA, United States
Peterson, Jeffrey N., Foster City, CA, United States
PA Target Discovery, Inc., San Carlos, CA, United States (U.S. corporation)
PI US 6379971 B1 20020430
AI US 2000-513395 20000225 (9)
PRAI US 1999-130238P 19990420 (60)
US 1998-75715P 19980224 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Warden, Jill; Assistant Examiner: Cole, Monique T.
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 19
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 1664
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides a method for protein sequencing using mass spectrometry. Also provided are protein labeling agents and labeled proteins for use in conjunction with the present method.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 14 OF 43 USPATFULL
AN 2002:50773 USPATFULL
TI Preparation of pools of nucleic acids based on representation in a sample
IN Alfenito, Mark R., Redwood City, CA, United States
PA Hyseq, Inc., Sunnyvale, CA, United States (U.S. corporation)
PI US 6355419 B1 20020312
AI US 1998-67317 19980427 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Marschel, Ardin H.
LREP Marshall, Gerstein & Borun
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 5347
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to methods for preparing **nucleic acid** pools useful in hybridization studies. Such methods allow hybridization conditions, such as time, temperature, ionic strength, etc., to be adjusted to increase the likelihood that hybridization to the nucleic acids within each pool is within the linear range of detection (i.e., detectable but not saturating). The methods rely on pooling nucleic acids derived from a sample, based on the degree of representation within the sample, i.e., nucleic acids having similar degrees of representation within in a sample are combined into a pool. The invention also provides arrays and kits produced from pooled nucleic acids, and an improved method for identifying a **nucleic acid** and/or its representation in a sample.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 15 OF 43 USPATFULL
AN 2002:34297 USPATFULL
TI Invasive cleavage of nucleic acids

09567863

IN Prudent, James R., Madison, WI, United States
Hall, Jeff G., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Brow, Mary Ann D., Madison, WI, United States
Dahlberg, James E., Madison, WI, United States
PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)
PI US 6348314 B1 20020219
AI US 1999-350309 19990709 (9)
RLI Division of Ser. No. US 1996-756386, filed on 29 Nov 1996, now patented, Pat. No. US 5985557 Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, now patented, Pat. No. US 6001567 Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717, issued on 8 Dec 1998
DT Utility
FS GRANTED
EXNAM Primary Examiner: Campbell, Eggerton A.
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 72
ECL Exemplary Claim: 1
DRWN 118 Drawing Figure(s); 90 Drawing Page(s)
LN.CNT 8623
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific **nucleic acid** sequences or specific variations thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 16 OF 43 USPATFULL
AN 2001:214837 USPATFULL
TI Single nucleotide detection using degradation of a fluorescent sequence
IN Singh, Sharat, San Jose, CA, United States
PA Aclara Biosciences, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6322980 B1 20011127
AI US 1999-303029 19990430 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Zitomer, Stephanie; Assistant Examiner: Tung, Joyce
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1232
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions are provided for detecting single nucleotide polymorphisms using a pair of oligonucleotides, a primer and a snp detection sequence, where the snp detection sequence hybridizes to the target DNA downstream from the primer and in the direction of primer extension. The snp detection sequence is characterized by having a nucleotide complementary to the snp and adjacent nucleotide complementary to adjacent nucleotides in the target and an electophoretic tag bonded to the 5'-nucleotide. The pair of oligonucleotides is combined with the target DNA under primer extension conditions, where the polymerase has 5'-3' exonuclease activity. When the snp is present, the electophoretic tag is released from the snp

detection sequence, and can be detected by electrophoresis as indicative of the presence of the snp in the target DNA.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 17 OF 43 USPATFULL
AN 2001:202782 USPATFULL
TI Electrochemiluminescent assays
IN Massey, Richard J., Rockville, MD, United States
Powell, Michael J., Rockville, MD, United States
Mied, Paul A., New Windsor, MD, United States
Feng, Peter, Rockville, MD, United States
Della Ciana, Leopoldo, Rockville, MD, United States
Dressick, Walter J., Rockville, MD, United States
Poonian, Mohindar S., Gaithersburg, MD, United States
PA IGEN International, Inc., Gaithersburg, MD, United States (U.S. corporation)
PI US 6316607 B1 20011113
AI US 1995-472425 19950607 (8)
RLI Division of Ser. No. US 1995-415756, filed on 3 Apr 1995, now abandoned Continuation of Ser. No. US 1994-195825, filed on 10 Feb 1994, now abandoned Continuation of Ser. No. US 369560, now abandoned Continuation-in-part of Ser. No. US 1986-858354, filed on 30 Apr 1986, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Riley, Jezia
LREP Kramer Levin Naftalis & Frankel LLP
CLMN Number of Claims: 46
ECL Exemplary Claim: 1
DRWN 13 Drawing Figure(s); 13 Drawing Page(s)
LN.CNT 4227
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Qualitative and quantitative electrochemiluminescent assays for analytes of interest present in multicomponent liquids are provided. These methods comprise contacting a sample with a reagent labeled with an electrochemiluminescent chemical moiety and capable of combining with the analyte of interest, exposing the resulting sample to electrochemical energy and detecting electromagnetic radiation emitted by the electrochemiluminescent chemical moiety.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 18 OF 43 USPATFULL
AN 2001:202419 USPATFULL
TI Polymerase extension at 3' terminus of PNA-DNA chimera
IN Egholm, Michael, Wayland, MA, United States
Chen, Caifu, Brookline, MA, United States
PA Applera Corporation, Foster City, CA, United States (U.S. corporation)
PI US 6316230 B1 20011113
AI US 1999-373845 19990813 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Riley, Jezia
LREP Andrus, Alex
CLMN Number of Claims: 43
ECL Exemplary Claim: 1
DRWN 20 Drawing Figure(s); 17 Drawing Page(s)
LN.CNT 1634
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides methods and a kit for primer extension of PNA-DNA chimera from template nucleic acids using polymerases, nucleotide

5'-triphosphates, and primer extension reagents. Structural requirements of the chimera for primer extension include 5 to 15 contiguous PNA monomer units, 3 or more contiguous nucleotides, and a 3' hydroxyl terminus. The chimera and/or a nucleotide is labelled with fluorescent dyes or other labels. The methods include DNA sequencing, DNA fragment analysis, reverse transcription, mini-sequencing, chromosome labelling, amplification, and single nucleotide polymorphism (SNP) detection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 19 OF 43 USPATFULL
AN 2001:197264 USPATFULL
TI Maize aquaporins and uses thereof
IN Jung, Rudolf, Des Moines, IA, United States
Chaumont, Francois, Louvain-la-Neuve, Belgium
Chrispeels, Maarten, La Jolla, CA, United States
PA Pioneer Hi-Bred International, Inc., Des Moines, IA, United States (U.S. corporation)
The Regents of the University of California, Oakland, CA, United States (U.S. corporation)
PI US 6313376 B1 20011106
AI US 1999-372448 19990811 (9)
PRAI US 1998-96627P 19980814 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Fox, David T.; Assistant Examiner: Ibrahim, Medina A.
LREP Pioneer Hi-Bred International, Inc.
CLMN Number of Claims: 40
ECL Exemplary Claim: 1,4,5,8,13
DRWN No Drawings
LN.CNT 3369
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated maize aquaporin nucleic acids and their encoded proteins. The present invention provides methods and compositions relating to altering aquaporin concentration and/or composition of plants. The invention further provides recombinant expression cassettes, host cells, transgenic plants, and antibody compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 20 OF 43 USPATFULL
AN 2001:197263 USPATFULL
TI Maize aquaporins and uses thereof
IN Jung, Rudolf, Des Moines, IA, United States
Barrieu, Francois, Bordeaux, France
PA Pioneer Hi-Bred International, Inc., Des Moines, IA, United States (U.S. corporation)
PI US 6313375 B1 20011106
AI US 1999-372422 19990811 (9)
PRAI US 1998-98692P 19980813 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Fox, David T.; Assistant Examiner: Ibrahim, Medina A.
LREP Pioneer Hi-Bred International, Inc.
CLMN Number of Claims: 40
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 3234
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated maize aquaporin nucleic acids and their encoded proteins. The present invention provides methods and

compositions relating to altering aquaporin concentration and/or composition of plants. The invention further provides recombinant expression cassettes, host cells, transgenic plants, and antibody compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 21 OF 43 USPATFULL
AN 2001:185067 USPATFULL
TI Methods for the detection, analysis and isolation of Nascent proteins
IN Rothschild, Kenneth J., Newton, MA, United States
Gite, Sadanand, Cambridge, MA, United States
Olejnik, Jerzy, Allston, MA, United States
PA Ambergen, Incorporated, Boston, MA, United States (U.S. corporation)
PI US 6306628 B1 20011023
AI US 1999-382736 19990825 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Schwartzman, Robert A.; Assistant Examiner: Davis, Katharine F
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 38 Drawing Figure(s); 35 Drawing Page(s)
LN.CNT 4586
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to non-radioactive markers that facilitate the detection and analysis of nascent proteins translated within cellular or cell-free translation systems. Nascent proteins containing these markers can be rapidly and efficiently detected, isolated and analyzed without the handling and disposal problems associated with radioactive reagents. Preferred markers are dipyrrometheneboron difluoride (4,4-difluoro-4-bora-3a,4a-diaza-s-indacene) dyes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 22 OF 43 USPATFULL
AN 2001:178841 USPATFULL
TI N-**terminal** and C-**terminal** markers in nascent proteins
IN Rothschild, Kenneth J., Newton, MA, United States
Gite, Sadanand, Cambridge, MA, United States
Olejnik, Jerzy, Allston, MA, United States
PA Amber Gen. Inc., Boston, MA, United States (U.S. corporation)
PI US 6303337 B1 20011016
AI US 1999-382950 19990825 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Brusca, John S.; Assistant Examiner: Lundgren, Jeffrey S.
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 48
ECL Exemplary Claim: 1
DRWN 38 Drawing Figure(s); 36 Drawing Page(s)
LN.CNT 4500
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to non-radioactive markers that facilitate the detection and analysis of nascent proteins translated within cellular or cell-free translation systems. Nascent proteins containing these markers can be rapidly and efficiently detected, isolated and analyzed without the handling and disposal problems associated with radioactive reagents. Methods are described for incorporating N-**terminal**, C-

terminal and (optionally) affinity markers into a nascent protein

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 23 OF 43 USPATFULL
AN 2001:157679 USPATFULL
TI Systems for electrophoretic transport and detection of analytes
IN Kayyem, Jon Faiz, Pasadena, CA, United States
Blackburn, Gary, Glendora, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
PA Clinical Micro Sensors, Inc., Pasadena, CA, United States (U.S. corporation)
PI US 6290839 B1 20010918
AI US 1998-134058 19980814 (9)
PRAI US 1998-90389P 19980623 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Tung, T.; Assistant Examiner: Noguerola, Alex
LREP Flehr Hohbach Test Albritton & Herbert LLP, Trecartin, Esq., Richard F., Silva, Esq., Robin M.
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN 44 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 4594
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to compositions and methods useful in the electrophoretic transport of target analytes to a detection electrode comprising a self-assembled monolayer (SAM). Detection proceeds through the use of an electron transfer moiety (ETM) that is associated with the target analyte, either directly or indirectly, to allow electronic detection of the ETM.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 24 OF 43 USPATFULL
AN 2001:125760 USPATFULL
TI O-fucosyltransferase
IN Wang, Yang, Milbrae, CA, United States
Spellman, Michael W., Belmont, CA, United States
PA Genentech, Inc., South San Francisco, CA, United States (U.S. corporation)
PI US 6270987 B1 20010807
AI US 1999-333729 19990615 (9)
RLI Division of Ser. No. US 1997-978741, filed on 26 Nov 1997, now patented, Pat. No. US 6100076, issued on 8 Aug 2000 Continuation-in-part of Ser. No. US 1997-792498, filed on 31 Jan 1997, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Prouty, Rebecca E.; Assistant Examiner: Rao, Manjunath N.
LREP Barnes, Elizabeth M.
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 20 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 3080
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes the identification, purification, recombinant production and characterization of novel O-fucosyltransferase enzymes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 25 OF 43 USPATFULL
AN 2001:121236 USPATFULL
TI Method of **nucleic acid** analysis
IN Gut, Ivo G., Berlin, Germany, Federal Republic of
Beck, Stephan A., Cambridge, United Kingdom
PA Imperial Cancer Research Technology Limited, London, United Kingdom (non-U.S. corporation)
PI US 6268129 B1 20010731
WO 9627681 19960912
AI US 1997-894836 19971124 (8)
WO 1996-GB476 19960304
19971124 PCT 371 date
19971124 PCT 102(e) date
PRAI GB 1995-4598 19950303
DT Utility
FS GRANTED
EXNAM Primary Examiner: Houtteman, Scott W.
LREP Nixon & Vanderhye P.C.
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 31 Drawing Figure(s); 31 Drawing Page(s)
LN.CNT 1990
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of analysing a **nucleic acid** by mass spectrometry comprising the steps of: (1) preparing a **nucleic acid** molecule comprising a negatively charged non-phosphate sugar-sugar linkage; (2) eliminating the charge from all, or up to all but ten, of the sugar-sugar linkages of the said **nucleic acid** molecule; (3) introducing the said **nucleic acid** molecule in which the charge has been wholly or partly eliminated as said into a mass spectrometer; and (4) determining the mass of the said **nucleic acid** molecule. Preferably, the **nucleic acid** has no or one charge. A method of preparing a **nucleic acid** molecule containing no or up to ten negative charges and no or up to ten positive charges comprising the steps of (1) synthesizing a **nucleic acid** with a phosphorothioate linkage or a phosphoroselenoate linkage between sugar residues, and (2) reacting the said **nucleic acid** with an alkylating agent so as to eliminate the charge on the said phosphorothioate linkage or said phosphoroselenoate linkage. The methods are useful for DNA sequencing and mutation analysis, and the nucleic acids are useful to suppress gene expression. ##STR1##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 26 OF 43 USPATFULL
AN 2001:116434 USPATFULL
TI Binding acceleration techniques for the detection of analytes
IN Blackburn, Gary, Glendora, CA, United States
Creager, Stephen E., Central, SC, United States
Fraser, Scott, La Canada, CA, United States
Irvine, Bruce D., Glendora, CA, United States
Meade, Thomas J., Altadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Terbrueggen, Robert H., Manhattan Beach, CA, United States
Vielmetter, Jost G., Pasadena, CA, United States
Welch, Thomas W., Pasadena, CA, United States
PA Clinical Micro Sensors, Inc., Pasadena, CA, United States (U.S. corporation)
PI US 6264825 B1 20010724

09567863

AI US 1999-338726 19990623 (9)
RLI Continuation of Ser. No. US 1998-134058, filed on 14 Aug 1998
PRAI US 1998-90389P 19980623 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Tung, T.; Assistant Examiner: Noguerola, Alex
LREP Flehr Hohabch Test Albritton & Herbert LLP, Trecartin, Esq., Richard F., Silva, Esq., Robin M.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 49 Drawing Figure(s); 22 Drawing Page(s)
LN.CNT 5644
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to compositions and methods useful in the acceleration of binding of target analytes to capture ligands on surfaces. Detection proceeds through the use of an electron transfer moiety (ETM) that is associated with the target analyte, either directly or indirectly, to allow electronic detection of the ETM.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 27 OF 43 USPATFULL
AN 2001:29788 USPATFULL
TI Alteration of hemicellulose concentration in plants
IN Dhugga, Kanwarpal S., Johnston, IA, United States
Nichols, Scott E., Johnston, IA, United States
Fallis, Patricia Lynne, Polk City, IA, United States
PA Pioneer Hi-Bred International, Inc., Des Moines, IA, United States (U.S. corporation)
PI US 6194638 B1 20010227
AI US 1999-338671 19990622 (9)
PRAI US 1998-90416P 19980623 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Fox, David T.; Assistant Examiner: Ibrahim, Medina A
LREP Pioneer Hi-Bred International, Inc.
CLMN Number of Claims: 20
ECL Exemplary Claim: 1,11
DRWN No Drawings
LN.CNT 3616
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated Rgp nucleic acids and their encoded proteins. The present invention provides methods and compositions relating to altering RGP levels in plants. The invention further provides recombinant expression cassettes, host cells, transgenic plants, and antibody compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 28 OF 43 USPATFULL
AN 2000:164265 USPATFULL
TI Method for detecting a target substance in a sample, utilizing pyrylium compound
IN Yamamoto, Nobuko, Isehara, Japan
Okamoto, Tadashi, Yokohama, Japan
PA Canon Kabushiki Kaisha, Tokyo, Japan (non-U.S. corporation)
PI US 6156506 20001205
AI US 1997-825586 19970401 (8)
RLI Continuation of Ser. No. US 1995-450688, filed on 25 May 1995, now abandoned
PRAI JP 1994-112626 19940526
JP 1994-125040 19940607

09567863

DT Utility
FS Granted
EXNAM Primary Examiner: Ceperley, Mary E.
LREP Fitzpatrick, Cella, Harper & Scinto
CLMN Number of Claims: 67
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2236
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for detecting a target substance in a sample comprises the steps of providing at least two reagents which can form a reaction system for causing changes as the result of an interaction therebetween the interaction being caused only when the target substance is present in the sample, reacting the reagents with the target substance, and measuring the resulting changes based on the interaction, wherein at least one of the reagents forming the reaction system is selected from specific pyrylium compounds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 29 OF 43 USPATFULL
AN 2000:131592 USPATFULL
TI Detection of nucleic acids and **nucleic acid** units
IN Graham, Duncan, Edinburgh, United Kingdom
Linacre, Adrian Matthew Thornton, Glasgow, United Kingdom
Munro, Callum Hugh, Pittsburgh, PA, United States
Smith, William Ewan, Glasgow, United Kingdom
Watson, Nigel Dean, Ayrshire, United Kingdom
White, Peter Cyril, Drymen, United Kingdom
PA University of Strathclyde, Glasgow, United Kingdom (non-U.S. corporation)
PI US 6127120 20001003
WO 9705280 19970213
AI US 1998-983486 19980421 (8)
WO 1996-GB1830 19960725
19980421 PCT 371 date
19980421 PCT 102(e) date
PRAI GB 1995-17955 19950725
DT Utility
FS Granted
EXNAM Primary Examiner: Riley, Jezia
LREP Dann, Dorfman, Herrell and Skillman
CLMN Number of Claims: 47
ECL Exemplary Claim: 1
DRWN 22 Drawing Figure(s); 22 Drawing Page(s)
LN.CNT 2282
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to the detection of target nucleic acids or **nucleic acid** units in a sample, by obtaining a SER(R)S spectrum for a SER(R)S-active complex containing, or derived directly from, the target. The complex includes at least a SER(R)S-active label, and optionally a target binding species containing a **nucleic acid** or **nucleic acid** unit. In this detection method, the concentration of the target present in the SER(R)S-active complex, or of the **nucleic acid** or unit contained in the target binding species in the SER(R)S-active complex, is no higher than 10.sup.-10 moles per liter. Additionally or alternatively, one or more of the following features may be used with the method: i) the introduction of a polyamine; ii) modification of the target, and/or of the **nucleic acid** or **nucleic acid** unit contained in the target binding species, in a manner that promotes or facilitates its chemi-sorption onto a SER(R)S-active surface; iii)

inclusion of a chemi-sorptive functional group in the SER(R)S-active label. The invention also provides SER(R)S-active complexes for use in such a method, a kit for use in carrying out the method or preparing the complexes and a method for sequencing a **nucleic acid** which comprises the use of the detection method to detect at least one target nucleotide or sequence of nucleotides within the acid.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 30 OF 43 USPATFULL
AN 2000:102109 USPATFULL
TI O-fucosyltransferase
IN Wang, Yang, Milbrae, CA, United States
Spellman, Michael W., Belmont, CA, United States
PA Genentech, Inc., South San Francisco, CA, United States (U.S. corporation)
PI US 6100076 20000808
AI US 1997-978741 19971126 (8)
RLI Continuation-in-part of Ser. No. US 1997-792498, filed on 31 Jan 1997, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Sisson, Bradley L.; Assistant Examiner: Longton, Enrique D.
LREP Svoboda, Craig G.
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 3438
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes the identification, purification, recombinant production and characterization of novel O-fucosyltransferase enzymes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 31 OF 43 USPATFULL
AN 2000:91761 USPATFULL
TI Cleavage agents
IN Kaiser, Michael W., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Lyamicheva, Natasha, Madison, WI, United States
PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)
PI US 6090606 20000718
AI US 1996-758314 19961202 (8)
RLI Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996 which is a continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717 which is a continuation-in-part of Ser. No. US 1996-756376, filed on 2 Dec 1996
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 24
ECL Exemplary Claim: 6
DRWN 144 Drawing Figure(s); 117 Drawing Page(s)
LN.CNT 11295
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well

as variations in **nucleic acid** sequences. The present invention also relates to improved cleavage means for the detection and characterization of **nucleic acid** sequences. Structure-specific nucleases derived from a variety of thermostabe organisms are provided. These structure-specific nucleases are used to cleave target-dependent cleavage structures, thereby indicating the presence of specific **nucleic acid** sequences or specific variations thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 32 OF 43 USPATFULL
AN 2000:91698 USPATFULL
TI Cleavage of nucleic acids
IN Prudent, James R., Madison, WI, United States
Hall, Jeff G., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Brow, Mary Ann D., Madison, WI, United States
Dahlberg, James E., Madison, WI, United States
PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)
PI US 6090543 20000718
AI US 1996-759038 19961202 (8)
RLI Continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996 which is a continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996 76 Ser. No. US 1996-758314, filed on 2 Dec 1996
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 27
ECL Exemplary Claim: 1
DRWN 102 Drawing Figure(s); 117 Drawing Page(s)
LN.CNT 11426
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific **nucleic acid** sequences or specific variations thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 33 OF 43 USPATFULL
AN 1999:163423 USPATFULL
TI Detection of **nucleic acid** sequences by invader-directed cleavage
IN Brow, Mary Ann D., Madison, WI, United States
Hall, Jeff Steven Grotelueschen, Madison, WI, United States
Lyamichev, Victor, Madison, WI, United States
Olive, David Michael, Madison, WI, United States
Prudent, James Robert, Madison, WI, United States
PA Third Wave Technologies, Inc., CA, United States (U.S. corporation)
PI US 6001567 19991214
AI US 1996-682853 19960712 (8)
RLI Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996,

now patented, Pat. No. US 5846717
DT Utility
FS Granted
EXNAM Primary Examiner: Arthur, Lisa B.; Assistant Examiner: Souaya, Jehanne
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 66 Drawing Figure(s); 82 Drawing Page(s)
LN.CNT 7836
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The 5' nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific **nucleic acid** sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of **nucleic acid** molecules based by charge.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 34 OF 43 USPATFULL
AN 1999:155453 USPATFULL
TI Detection of nucleic acids by multiple sequential invasive cleavages
IN Hall, Jeff G., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Mast, Andrea L., Madison, WI, United States
Brow, Mary Ann D., Madison, WI, United States
PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)
PI US 5994069 19991130
AI US 1997-823516 19970324 (8)
RLI Continuation-in-part of Ser. No. WO 1997-US1072, filed on 21 Jan 1997 which is a continuation-in-part of Ser. No. US 1996-759038, filed on 2 Dec 1996 And a continuation-in-part of Ser. No. US 1996-758314, filed on 2 Dec 1996 which is a continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996 which is a continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996 , said Ser. No. US 759038 which is a continuation-in-part of Ser. No. US 1996-756386, filed on 26 Nov 1996
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Shoemaker, Debra
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 169 Drawing Figure(s); 128 Drawing Page(s)
LN.CNT 14892
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby

indicating the presence of specific **nucleic acid** sequences or specific variations thereof. The present invention further relates to methods and devices for the separation of **nucleic acid** molecules based on charge. The present invention also provides methods for the detection of non-target cleavage products via the formation of a complete and activated protein binding region. The invention further provides sensitive and specific methods for the detection of human cytomegalovirus **nucleic acid** in a sample.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 35 OF 43 USPATFULL
AN 1999:146257 USPATFULL
TI Invasive cleavage of nucleic acids
IN Prudent, James R., Madison, WI, United States
Hall, Jeff G., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Brow, Mary Ann D., Madison, WI, United States
Dahlberg, James E., Madison, WI, United States
PA Third Wave Technologies, Inc., WI, United States (U.S. corporation)
PI US 5985557 19991116
AI US 1996-756386 19961126 (8)
RLI Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996 which is a continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996, now patented, Pat. No. US 5846717
DT Utility
FS Granted
EXNAM Primary Examiner: Campbell, Eggerton A.
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 87 Drawing Figure(s); 90 Drawing Page(s)
LN.CNT 8630
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for the detection and characterization of **nucleic acid** sequences, as well as variations in **nucleic acid** sequences. The present invention also relates to methods for forming a **nucleic acid** cleavage structure on a target sequence and cleaving the **nucleic acid** cleavage structure in a site-specific manner. The structure-specific nuclease activity of a variety of enzymes is used to cleave the target-dependent cleavage structure, thereby indicating the presence of specific **nucleic acid** sequences or specific variations thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 36 OF 43 USPATFULL
AN 1999:117339 USPATFULL
TI Chimeric antiviral agents comprising Rev binding nucleic acids and trans-acting ribozymes, and molecules encoding them
IN Kraus, Gunter, Miami, FL, United States
Wong-Staal, Flossie, San Diego, CA, United States
Yu, Mang, San Diego, CA, United States
Yamada, Osamu, Kobe, Japan
PA The Regents of the University of California, Oakland, CA, United States (U.S. corporation)
PI US 5958768 19990928
AI US 1996-697324 19960823 (8)
PRAI US 1995-2793P 19950825 (60)
DT Utility

09567863

FS Granted
EXNAM Primary Examiner: Smith, Lynette F.; Assistant Examiner: Nelson, Amy J.
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 25
ECL Exemplary Claim: 1,21
DRWN 18 Drawing Figure(s); 7 Drawing Page(s)
LN.CNT 2347
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment and diagnosis of infections of Rev-binding primate lentiviruses are provided. These methods and compositions utilize the ability of Rev binding nucleic acids such as the SLII sequence from the HIV-1 Rev response element (RRE) to target therapeutic agents to the same sub-cellular location as primate lentiviruses which contain RRE sequences. In particular, the invention provides trans-acting ribozymes comprising Rev-binding nucleic acids less toxic than a full-length RRE, and molecules encoding them. The use of the compositions of the invention as components of diagnostic assays, as prophylactic reagents, and in vectors is also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 37 OF 43 USPATFULL
AN 1999:27402 USPATFULL
TI Use of boron-containing polynucleotides as diagnostic agents
IN Stolowitz, Mark L., Woodinville, WA, United States
Kaiser, Robert J., Bothell, WA, United States
PA Prolinx, Incorporated, Bothell, WA, United States (U.S. corporation)
PI US 5876938 19990302
AI US 1997-837340 19970411 (8)
RLI Division of Ser. No. US 1996-692429, filed on 5 Aug 1996
DT Utility
FS Granted
EXNAM Primary Examiner: Marschel, Ardin H.; Assistant Examiner: Riley, Jezia
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 1600
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Modified nucleotides and polynucleotides which are useful in hybridization assays for the detection of target genes are provided. The modified polynucleotides contain at least one boronic acid moiety which is attached to a nucleotide base in a position which does not interfere with the hydrogen bonding capabilities of that base during duplex formation. The modified polynucleotides are typically formed from naturally occurring nucleotides and one or more modified nucleotides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 38 OF 43 USPATFULL
AN 1999:7240 USPATFULL
TI Method of analysis or assay for polynucleotides and analyzer or instrument for polynucleotides
IN Kambara, Hideki, Hachioji, Japan
Okano, Kazunori, Shiki, Japan
Uematsu, Chihiro, Kokubunji, Japan
PA Hitachi, Ltd., Tokyo, Japan (non-U.S. corporation)
PI US 5861252 19990119
AI US 1996-758220 19961127 (8)
PRAI JP 1995-311949 19951130
DT Utility
FS Granted

09567863

EXNAM Primary Examiner: Horlick, Kenneth R.; Assistant Examiner: Tung, Joyce
LREP Fay, Sharpe, Beall, Fagan, Minnich & McKee
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN 6 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 1290
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of analysis or assay for nucleotides comprises: (1) a step of digesting DNA with a restriction enzyme; (2) a step of discriminating a difference in sequences of the DNA fragments obtained in step (1) above around the 3' termini thereof with a DNA probe and extending the DNA probe by a complementary strand synthesis to fractionate the DNA fragments into groups; and, (3) a step of measuring lengths of the DNA fragments which belong to said groups, or length of the DNA probe extended by said complementary strand extension reaction; wherein the thus measured lengths obtained for every sequence of the bases of the DNA fragments around the 3' termini thereof are employed as fingerprints.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 39 OF 43 USPATFULL
AN 1998:150686 USPATFULL
TI Cleavage of **nucleic acid** acid using thermostable methoanococcus jannaschii FEN-1 endonucleases
IN Kaiser, Michael W., Madison, WI, United States
Lyamichev, Victor I., Madison, WI, United States
Lyamichev, Natasha, Madison, WI, United States
PA Third Wave Technologies, Inc., Madison, WI, United States (U.S. corporation)
PI US 5843669 19981201
AI US 1996-757653 19961129 (8)
RLI Continuation-in-part of Ser. No. US 1996-599491, filed on 24 Jan 1996
DT Utility
FS Granted
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Fredman, Jeffrey
LREP Medlen & Carroll, LLP
CLMN Number of Claims: 26
ECL Exemplary Claim: 3
DRWN 161 Drawing Figure(s); 131 Drawing Page(s)
LN.CNT 15189
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to means for cleaving a **nucleic acid** cleavage structure in a site-specific manner. Structure-specific nucleases, including 5' nucleases, thermostable FEN-1 endonucleases and 3' exonucleases, are used to detect and identify target nucleic acids. Methods are provided which allow for the detection specific **nucleic acid** sequences; these methods permit the detection and identification of mutant and wild-type forms of genes (e.g., human genes) as well as permit the detection and identification of bacterial and viral pathogens in a sample.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 40 OF 43 USPATFULL
AN 1998:135187 USPATFULL
TI Boronic acid-contaning **nucleic acid** monomers
IN Stolowitz, Mark L., Woodinville, WA, United States
Kaiser, Robert J., Bothell, WA, United States
PA Prolinx, Incorporated, Bothell, WA, United States (U.S. corporation)
PI US 5831046 19981103
AI US 1996-692429 19960805 (8)

09567863

DT Utility
FS Granted
EXNAM Primary Examiner: Marschel, Ardin H.; Assistant Examiner: Riley, Jezia
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 1589
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Modified nucleotides and polynucleotides which are useful in hybridization assays for the detection of target genes are provided. The modified polynucleotides contain at least one boronic acid moiety which is attached to a nucleotide base in a position which does not interfere with the hydrogen bonding capabilities of that base during duplex formation. The modified polynucleotides are typically formed from naturally occurring nucleotides and one or more modified nucleotides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 41 OF 43 USPATFULL
AN 1998:135186 USPATFULL
TI Boronic acid-containing polynucleotides
IN Stolowitz, Mark L., Woodinville, WA, United States
Kaiser, Robert J., Bothell, WA, United States
PA Porlinx, Incorporated, Bothell, WA, United States (U.S. corporation)
PI US 5831045 19981103
AI US 1997-834001 19970411 (8)
RLI Division of Ser. No. US 1996-692429, filed on 5 Aug 1996
DT Utility
FS Granted
EXNAM Primary Examiner: Marschel, Ardin H.; Assistant Examiner: Riley, Jezia
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 1585
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Modified nucleotides and polynucleotides which are useful in hybridization assays for the detection of target genes are provided. The modified polynucleotides contain at least one boronic acid moiety which is attached to a nucleotide base in a position which does not interfere with the hydrogen bonding capabilities of that base during duplex formation. The modified polynucleotides are typically formed from naturally occurring nucleotides and one or more modified nucleotides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 42 OF 43 USPATFULL
AN 1998:91798 USPATFULL
TI Optical detection of position of oligonucleotides on large DNA molecules
IN Konrad, Michael W., Lafayette, CA, United States
PA GeneVue, Inc., Lafayette, CA, United States (U.S. corporation)
PI US 5789167 19980804
WO 9507363 19950316
AI US 1996-596159 19960213 (8)
WO 1994-US9764 19940908
19960214 PCT 371 date
19960214 PCT 102(e) date
RLI Continuation-in-part of Ser. No. US 1993-120066, filed on 10 Sep 1993, now abandoned
DT Utility
FS Granted

09567863

EXNAM Primary Examiner: Zitomer, Stephanie W.
LREP Skjerven, Morrill, MacPherson, Franklin & Friel, LLP, Terlizzi, Laura, Haliday, Emily M.
CLMN Number of Claims: 30
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2145
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for analyzing a sample oligonucleotide sequence is described. The method comprises contacting the sample oligonucleotide sequence with an anchor sequence which comprises an immobilized oligonucleotide sequence which hybridizes with the sample. The sample is also contacted with a probe comprising an oligonucleotide sequence which hybridizes to a target oligonucleotide sequence to be detected in a suitable buffer to form a complex. The complex is subjected to a field which moves unbound oligonucleotide sequences away from the anchor sequence in the direction of the field, and preferably, extends the sample sequence. Whether the probe is bound to the sample oligonucleotide sequence, and preferably, the position of the probe, is determined to determine whether the target oligonucleotide sequence is present in the sample. The method can be used for mapping, for identity typing, and to determine whether a test oligonucleotide sequence is present in the sample. A device for performing the method and reagents are also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 43 OF 43 USPATFULL
AN 1998:1635 USPATFULL
TI Method for detecting a target **nucleic acid** by using an interaction of two kinds of reagents
IN Okamoto, Tadashi, Yokohama, Japan
Tomida, Yoshinori, Atsugi, Japan
Yamamoto, Nobuko, Isehara, Japan
Kawaguchi, Masahiro, Atsugi, Japan
Makino, Keisuke, Kyoto, Japan
Murakami, Akira, Kyoto, Japan
PA Canon Kabushiki Kaisha, Tokyo, Japan (non-U.S. corporation)
PI US 5705346 19980106
AI US 1996-671829 19960625 (8)
RLI Continuation of Ser. No. US 1993-157427, filed on 26 Nov 1993, now abandoned
PRAI JP 1992-318958 19921127
DT Utility
FS Granted
EXNAM Primary Examiner: Marschel, Ardin H.
LREP Fitzpatrick, Cella, Harper & Scinto
CLMN Number of Claims: 30
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 971
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for detecting a target **nucleic acid** comprises the steps of reacting a sample with a probe in the presence of two or more kinds of reagents capable of being made an irreversible change capable of being detected and accumulating by an interaction through a double helix structure under a condition enabling the replication of the formation and dissociation of a hybrid composed of the target **nucleic acid** in the sample and the probe, accumulating the irreversible change caused by the interaction of the reagents, and then detecting the accumulated change.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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FILE 'HOME' ENTERED AT 14:45:31 ON 19 DEC 2002

=> file biosis medline caplus wpids uspatfull
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

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CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

*** YOU HAVE NEW MAIL ***

=> s phosphoramidite (4a) charg?
L1          10 PHOSPHORAMIDITE (4A) CHARG?

=> d l1 bib abs 1-10

L1   ANSWER 1 OF 10  WPIDS (C) 2002 THOMSON DERWENT
AN   2002-674850 [72]   WPIDS
CR   1997-393613 [36]
DNC  C2002-190055
TI   Composition useful for e.g. separation of nucleic acids comprises a
     positively or neutrally charged phosphoramidite.
DC   B04 B05 D16
IN   ALLAWI, H T; LYAMICHEV, V; NERI, B P; SKRZPCZYNSKI, Z; TAKOVA, T; WAYLAND,
     S R
PA   (THIR-N) THIRD WAVE TECHNOLOGIES INC
CYC  100
PI   WO 2002063030 A2 20020815 (200272)* EN  197p
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZM ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
            RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
            ZW
     US 2002128465 A1 20020912 (200272)
ADT  WO 2002063030 A2 WO 2002-US3423 20020206; US 2002128465 A1 CIP of US
     1996-682853 19960712, CIP of US 1999-333145 19990614, US 2001-777430
     20010206
FDT  US 2002128465 A1 CIP of US 6001567
PRAI US 2001-777430   20010206; US 1996-682853   19960712; US 1999-333145
     19990614
AN   2002-674850 [72]   WPIDS
CR   1997-393613 [36]
AB   WO 200263030 A UPAB: 20021108
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NOVELTY - Composition comprises a positively or neutrally **charged phosphoramidite**.

DETAILED DESCRIPTION - Composition (c) or (c') comprises a positively **charged phosphoramidite** of formula (I) or a neutrally **charged phosphoramidite** of formula (II). (I) comprises nitrogen-containing chemical group selected from primary, secondary or tertiary amine or ammonium group. (II) comprises secondary or tertiary amine or ammonium group.

X, Z = a reactive phosphate group;
Y = a protected hydroxy group;
X' = a protected hydroxy group;
N, N' = an amine group.

INDEPENDENT CLAIMS are included for the following:

(1) a composition (c1) comprising a charge tag (x1) attached to a terminal end of a nucleic acid molecule, the charge tag comprises a phosphate group and a positively charged molecule;

(2) a composition (c2) comprising a nucleic acid molecule that comprises a positively **charged phosphoramidite**;

(3) a composition (c3) comprising a charge tag attached to the terminal end of a nucleic acid molecule, the charge tag comprises a positively **charged phosphoramidite**;

(4) a composition (c4) comprising a fluorescent dye directly bonded to a phosphate group, which is not directly bonded to an amine group;

(5) a mixture (m) comprising a number of oligonucleotides, each oligonucleotide is attached to a different charge tag with each charge tag comprising a phosphate group and a positively charged group;

(6) a composition (c5) comprising a solid support attached to a charged tag, the charge tag comprises a positively charged group and a reactive group configured to allow the charge tag to covalently attach to the nucleic acid molecule;

(7) separating nucleic acid molecules involving either:

(a) treating (m1) a charge-balanced oligonucleotide containing the charge tag to produce a charge-unbalanced oligonucleotide and separating the charge-unbalanced oligonucleotide from the reaction mixture; or

(b) treating (m2) a number of charge-balanced oligonucleotides, each containing different charge tags, to produce at least 2 charge-unbalanced oligonucleotides, and separating the charge-unbalanced oligonucleotides from the reaction mixture.

USE - The composition is useful for separation of nucleic acid molecules (claimed). The composition is further useful for fractionation of specific nucleic acids by selective charge reversal useful in e.g. INVADER assay cleavage reactions; and in the synthesis of charge-balanced molecules.

ADVANTAGE - In the fractionation of nucleic acid molecules, the method provides an absolute readout of the partition of products from substrates (i.e. provides a 100% separation). Through the use of multiple positively charged adducts, synthetic molecules can be constructed with sufficient modification due to the fact that the normally negatively charged strand is made nearly neutral. It is also possible to distinguish between a enzymatically or thermally degraded DNA fragments due to the absence or presence of 3'phosphate.

Dwg.0/46

L1 ANSWER 2 OF 10 USPATFULL
AN 2002:301126 USPATFULL
TI Patterned polymer synthesis
IN Huang, Tai-Nang, Lexington, MA, UNITED STATES
PI US 2002168669 A1 20021114
AI US 2002-107556 A1 20020326 (10)
PRAI US 2001-279004P 20010326 (60)
US 2001-322362P 20010914 (60)
DT Utility

09567863

FS APPLICATION
LREP Y. ROCKY TSAO, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804
CLMN Number of Claims: 27
ECL Exemplary Claim: 1
DRWN 19 Drawing Page(s)
LN.CNT 1941
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An array of chemical compounds can be produced by the electrostatic deposition of its components onto a substrate. The subunit building blocks are coupled to the chemical groups on the substrate to synthesize a complex compound. By localizing the electrostatic deposition, different building blocks can be coupled at different positions on the substrate. Thus, a diverse and addressable set of chemical compounds is produced on the substrate to form an array of chemical compounds, e.g., of biological polymers. One application of this concept is the production of an oligonucleotide array. Other concepts provided here can be used in combination with the electrostatic deposition method or with other chemical synthetic methods. The invention provides, in part, methods of dispensing the nucleic acid subunits as a dry composition (e.g., a particulate composition) for the in-situ synthesis of nucleic acid polymers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 3 OF 10 USPATFULL
AN 2002:251766 USPATFULL
TI Particulate compositions for chemical synthesis
IN Huang, Tai-Nang, Lexington, MA, UNITED STATES
PI US 2002137719 A1 20020926
AI US 2002-108212 A1 20020326 (10)
PRAI US 2001-279004P 20010326 (60)
US 2001-322362P 20010914 (60)
DT Utility
FS APPLICATION
LREP Y. ROCKY TSAO, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804
CLMN Number of Claims: 48
ECL Exemplary Claim: 1
DRWN 19 Drawing Page(s)
LN.CNT 1958
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed are compositions that include triboelectrically chargeable nucleotide particles of less than 50 .mu.m diameter and carrier particles. In one example, a substrate is selectively patterned with the compositions, e.g., by transfer from a selectively charged surface. The compositions can be used to synthesize nucleic acid arrays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 4 OF 10 USPATFULL
AN 2002:251141 USPATFULL
TI Multiplexed generation of chemical or physical events
IN Herrick, Steven S., Los Altos, CA, UNITED STATES
PI US 2002137085 A1 20020926
AI US 2002-84410 A1 20020225 (10)
RLI Continuation of Ser. No. WO 2000-US23289, filed on 25 Aug 2000, UNKNOWN
PRAI US 1999-151158P 19990827 (60)
US 2000-174969P 20000106 (60)
DT Utility
FS APPLICATION
LREP Charles D. Holland, Morrison & Foerster LLP, 755 Page Mill Road, Palo

Alto, CA, 94304-1018
CLMN Number of Claims: 51
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 1750
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and devices are provided for producing dense arrays of chemical entities. A substrate comprises a plurality of microlocations having microelectrodes connected to a network for connection to a computer to control the voltage and polarity at each of said microelectrodes. Means for producing electrically charged microparticles comprising at least one chemical moiety produce a mist of the particles which is directed to the surface of said substrate, where the microparticles are captured by microlocations of lower potential. By providing chemical moieties concurrently or sequentially, oligomers may be formed or small organic compounds synthesized. The resulting arrays may be used for screening samples for specific binding entities.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 5 OF 10 USPATFULL
AN 2002:251036 USPATFULL
TI Transfer of arrayed chemical compositions
IN Huang, Tai-Nang, Lexington, MA, UNITED STATES
PI US 2002136978 A1 20020926
AI US 2002-108155 A1 20020326 (10)
PRAI US 2001-279004P 20010326 (60)
US 2001-322362P 20010914 (60)
DT Utility
FS APPLICATION
LREP Y. ROCKY TSAO, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 19 Drawing Page(s)
LN.CNT 1883
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Nucleotide preparations are transferred from a first substrate to a second substrate. One transfer method includes forming a patterned dry particulate deposition on a first substrate; positioning the first substrate in apposition to a second substrate; and transferring at least a portion of the dry deposition from the first substrate to the second substrate to produce a patterned dry deposition of the nucleotide on the second substrate. The method can be used to form an array of nucleic acids.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 6 OF 10 USPATFULL
AN 2002:250834 USPATFULL
TI Polymer synthesis
IN Huang, Tai-Nang, Lexington, MA, UNITED STATES
PI US 2002136772 A1 20020926
AI US 2002-108165 A1 20020326 (10)
PRAI US 2001-279004P 20010326 (60)
US 2001-322362P 20010914 (60)
DT Utility
FS APPLICATION
LREP Y. ROCKY TSAO, Fish & Richardson P.C., 225 Franklin Street, Boston, MA, 02110-2804
CLMN Number of Claims: 37
ECL Exemplary Claim: 1

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DRWN 19 Drawing Page(s)
LN.CNT 1940
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A nucleotide compound is activated by an aerosol of a liquid composition that includes, dissolved therein, an activator compound that triggers the covalent coupling of the nucleotide compound to the support. The nucleotide compound can be deposited on the substrate, for example, as a thin film or a particulate composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 7 OF 10 USPATFULL
AN 2002:236261 USPATFULL
TI Charge tags and the separation of nucleic acid molecules
IN Lyamichev, Victor, Madison, WI, UNITED STATES
Skrzpczynski, Zbigniew, Verona, WI, UNITED STATES
Allawi, Hatim T., Madison, WI, UNITED STATES
Wayland, Sarah R., Madison, WI, UNITED STATES
Takova, Tsetska, Madison, WI, UNITED STATES
Neri, Bruce P., Madison, WI, UNITED STATES
PA Third Wave Technologies, Inc. (U.S. corporation)
PI US 2002128465 A1 20020912
AI US 2001-777430 A1 20010206 (9)
RLI Continuation-in-part of Ser. No. US 1999-333145, filed on 14 Jun 1999, PENDING Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567
DT Utility
FS APPLICATION
LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, 94105
CLMN Number of Claims: 86
ECL Exemplary Claim: 1
DRWN 46 Drawing Page(s)
LN.CNT 5163
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel phosphoramidites, including positive and neutrally charged compounds. The present invention also provides charge tags for attachment to materials including solid supports and nucleic acids, wherein the charge tags increase or decrease the net charge of the material. The present invention further provides methods for separating and characterizing molecules based on the charge differentials between modified and unmodified materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 8 OF 10 USPATFULL
AN 2002:60995 USPATFULL
TI Method for synthesizing a specific, surface-bound polymer uniformly over an element of a molecular array
IN Earhart, Jonathan P., Mountain View, CA, UNITED STATES
Perbost, Michel G. M., Cupertino, CA, UNITED STATES
PI US 2002034830 A1 20020321
AI US 2001-972256 A1 20011005 (9)
RLI Continuation of Ser. No. US 1999-300873, filed on 28 Apr 1999, GRANTED, Pat. No. US 6300137
DT Utility
FS APPLICATION
LREP AGILENT TECHNOLOGIES, INC., Legal Department, DL429, Intellectual Property Administration, P.O. Box 7599, Loveland, CO, 80537-0599
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 17 Drawing Page(s)

09567863

LN.CNT 1123
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for specifically and uniformly synthesizing desired polymers within molecular array elements. Droplets containing a reactive monomer are successively applied to the elements of a molecular array in order to synthesize a substrate-bound polymer. Application of an initial droplet, having a first volume, defines the position and size of a molecular array element. Subsequent droplets are applied, to add successive reactive monomers to growing nascent polymers within the molecular array element, with covering volumes so that, even when application of the subsequent droplets is misregistered, the entire surfaces of the elements of the molecular array are exposed to the subsequently applied droplets. Following application of initial droplets, the surface of the molecular array is exposed to a solution containing a very efficient capping agent in order to chemically cap any unreacted nascent growing polymers and any unreacted substrate molecules.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 9 OF 10 USPATFULL
AN 2001:173398 USPATFULL
TI Method for synthesizing a specific, surface-bound polymer uniformly over an element of a molecular array
IN Earhart, Jonathan P., Mountain View, CA, United States
Perbost, Michel G. M., Cupertino, CA, United States
PA Agilent Technologies Inc., Palo Alto, CA, United States (U.S. corporation)
PI US 6300137 B1 20011009
AI US 1999-300873 19990428 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Lu, Frank
CLMN Number of Claims: 19
ECL Exemplary Claim: 1
DRWN 53 Drawing Figure(s); 17 Drawing Page(s)
LN.CNT 1131
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for specifically and uniformly synthesizing desired polymers within molecular array elements. Droplets containing a reactive monomer are successively applied to the elements of a molecular array in order to synthesize a substrate-bound polymer. Application of an initial droplet, having a first volume, defines the position and size of a molecular array element. Subsequent droplets are applied, to add successive reactive monomers to growing nascent polymers within the molecular array element, with covering volumes so that, even when application of the subsequent droplets is misregistered, the entire surfaces of the elements of the molecular array are exposed to the subsequently applied droplets. Following application of initial droplets, the surface of the molecular array is exposed to a solution containing a very efficient capping agent in order to chemically cap any unreacted nascent growing polymers and any unreacted substrate molecules.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 10 OF 10 USPATFULL
AN 88:29858 USPATFULL
TI Polynucleotide synthesizing apparatus
IN Niina, Akihiko, Yokohama, Japan
Kamimoto, Harumi, Kamakura, Japan
PA Nippon Zeon Co. Ltd., Tokyo, Japan (non-U.S. corporation)

09567863

PI US 4744037 19880510
AI US 1985-754755 19850715 (6)
PRAI JP 1984-149642 19840720
DT Utility
FS Granted
EXNAM Primary Examiner: Lall, Parshotam S.; Assistant Examiner: Teska, Kevin J.
LREP Murray and Whisenhunt
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 679
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A polynucleotide synthesizing apparatus comprising a storing section for storing fluid chemicals, including nucleotide reagents, solvents and the like, necessary for polynucleotide synthesis, a reactor in which the fluid chemicals react to effect the polynucleotide synthesis, a fluid supply and discharge arrangement for supplying the fluid chemicals in the storing section to the reactor and for discharging fluid chemicals from the reactor, and a control device for controlling the fluid supply and discharge arrangement. The control device comprises a programmable controller including a storage unit in which supply amount and supply/discharge sequence information for the fluid chemicals is stored. The apparatus also comprises a memory pack comprising semiconductor memory devices in which a control program and/or maintenance program is stored. The memory pack is replaceable with the storage unit of the programmable controller.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d l1 10 kwic

L1 ANSWER 10 OF 10 USPATFULL
DETD . . . of a condensation agent (tetrazole/acetonitrile solution) charging step (I) after drying of the support by N.sub.2 gas, the nucleotide reagents (**phosphoramidite**) **charging** step, a condensation agent (tetrazole/acetonitrile solution) charging step (II), and a condensation reaction step. At the condensation agent charging step. . . the reactor 11. At the condensation agent charging step (II), the remaining condensation agent is introduced. At the nucleotide reagents (**phosphoramidite**) **charging** step, operation is carried out in accordance with an instruction from the base sequence input unit 36. For example, nucleotide. . .

=> s phosphoramidite (4a) positiv?
L2 2 PHOSPHORAMIDITE (4A) POSITIV?

=> d l2 bib abs 1-2

L2 ANSWER 1 OF 2 WPIDS (C) 2002 THOMSON DERWENT
AN 2002-674850 [72] WPIDS
CR 1997-393613 [36]
DNC C2002-190055
TI Composition useful for e.g. separation of nucleic acids comprises a **positively** or neutrally charged **phosphoramidite**.
DC B04 B05 D16
IN ALLAWI, H T; LYAMICHEV, V; NERI, B P; SKRZPCZYNSKI, Z; TAKOVA, T; WAYLAND, S R
PA (THIR-N) THIRD WAVE TECHNOLOGIES INC
CYC 100

09567863

PI WO 2002063030 A2 20020815 (200272)* EN 197p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
US 2002128465 A1 20020912 (200272)

ADT WO 2002063030 A2 WO 2002-US3423 20020206; US 2002128465 A1 CIP of US 1996-682853 19960712, CIP of US 1999-333145 19990614, US 2001-777430 20010206

FDT US 2002128465 A1 CIP of US 6001567

PRAI US 2001-777430 20010206; US 1996-682853 19960712; US 1999-333145 19990614

AN 2002-674850 [72] WPIDS

CR 1997-393613 [36]

AB WO 200263030 A UPAB: 20021108
NOVELTY - Composition comprises a **positively** or neutrally charged **phosphoramidite**.

DETAILED DESCRIPTION - Composition (c) or (c') comprises a **positively** charged **phosphoramidite** of formula (I) or a neutrally charged phosphoramidite of formula (II). (I) comprises nitrogen-containing chemical group selected from primary, secondary or tertiary amine or ammonium group. (II) comprises secondary or tertiary amine or ammonium group.

X, Z = a reactive phosphate group;
Y = a protected hydroxy group;
X' = a protected hydroxy group;
N, N' = an amine group.

INDEPENDENT CLAIMS are included for the following:

(1) a composition (c1) comprising a charge tag (x1) attached to a terminal end of a nucleic acid molecule, the charge tag comprises a phosphate group and a positively charged molecule;

(2) a composition (c2) comprising a nucleic acid molecule that comprises a **positively** charged **phosphoramidite**;

(3) a composition (c3) comprising a charge tag attached to the terminal end of a nucleic acid molecule, the charge tag comprises a **positively** charged **phosphoramidite**;

(4) a composition (c4) comprising a fluorescent dye directly bonded to a phosphate group, which is not directly bonded to an amine group;

(5) a mixture (m) comprising a number of oligonucleotides, each oligonucleotide is attached to a different charge tag with each charge tag comprising a phosphate group and a positively charged group;

(6) a composition (c5) comprising a solid support attached to a charged tag, the charge tag comprises a positively charged group and a reactive group configured to allow the charge tag to covalently attach to the nucleic acid molecule;

(7) separating nucleic acid molecules involving either:

(a) treating (m1) a charge-balanced oligonucleotide containing the charge tag to produce a charge-unbalanced oligonucleotide and separating the charge-unbalanced oligonucleotide from the reaction mixture; or

(b) treating (m2) a number of charge-balanced oligonucleotides, each containing different charge tags, to produce at least 2 charge-unbalanced oligonucleotides, and separating the charge-unbalanced oligonucleotides from the reaction mixture.

USE - The composition is useful for separation of nucleic acid molecules (claimed). The composition is further useful for fractionation of specific nucleic acids by selective charge reversal useful in e.g. INVADER assay cleavage reactions; and in the synthesis of charge-balanced molecules.

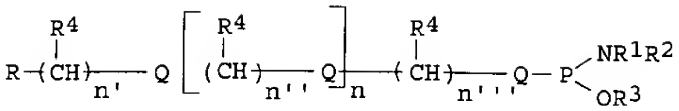
ADVANTAGE - In the fractionation of nucleic acid molecules, the

method provides an absolute readout of the partition of products from substrates (i.e. provides a 100% separation). Through the use of multiple positively charged adducts, synthetic molecules can be constructed with sufficient modification due to the fact that the normally negatively charged strand is made nearly neutral. It is also possible to distinguish between a enzymatically or thermally degraded DNA fragments due to the absence or presence of 3'phosphate.
Dwg.0/46

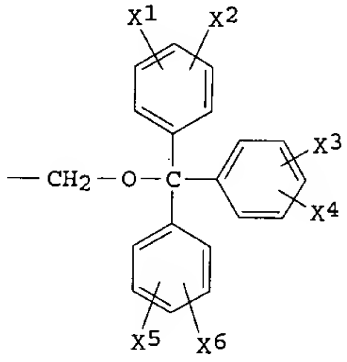
L2 ANSWER 2 OF 2 USPATFULL
AN 2002:236261 USPATFULL
TI Charge tags and the separation of nucleic acid molecules
IN Lyamichev, Victor, Madison, WI, UNITED STATES
Skrzpczynski, Zbigniew, Verona, WI, UNITED STATES
Allawi, Hatim T., Madison, WI, UNITED STATES
Wayland, Sarah R., Madison, WI, UNITED STATES
Takova, Tsetska, Madison, WI, UNITED STATES
Neri, Bruce P., Madison, WI, UNITED STATES
PA Third Wave Technologies, Inc. (U.S. corporation)
PI US 2002128465 A1 20020912
AI US 2001-777430 A1 20010206 (9)
RLI Continuation-in-part of Ser. No. US 1999-333145, filed on 14 Jun 1999, PENDING Continuation-in-part of Ser. No. US 1996-682853, filed on 12 Jul 1996, GRANTED, Pat. No. US 6001567
DT Utility
FS APPLICATION
LREP MEDLEN & CARROLL, LLP, 101 HOWARD STREET, SUITE 350, SAN FRANCISCO, CA, 94105
CLMN Number of Claims: 86
ECL Exemplary Claim: 1
DRWN 46 Drawing Page(s)
LN.CNT 5163
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel phosphoramidites, including positive and neutrally charged compounds. The present invention also provides charge tags for attachment to materials including solid supports and nucleic acids, wherein the charge tags increase or decrease the net charge of the material. The present invention further provides methods for separating and characterizing molecules based on the charge differentials between modified and unmodified materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=>



I



II

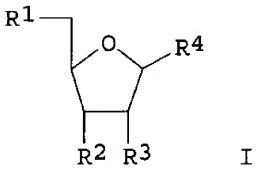
AB Phosphoramidite reagents [I; R1, R2 = H, lower alkyl; R3 = .beta.-cyanoethyl, methyl; R = protected or unprotected amino, sulfhydryl, or hydroxyl moiety; R4 = H, CH2OH or II (X1-X6 = H, lower alkyl, lower alkoxy); Q = O, NH, etc.; n, n', n'', n''' are integers] have a hydrophilic spacer arm and are suitable for introducing functional groups onto oligonucleotides. The reagents are more convenient to use than those of the prior art. Their synthesis and uses are described. An oligonucleotide was coupled with a tritylthio polyether phosphoramidite under std. phosphoramidite coupling procedures to yield a tritylthio oligomer. After detritylation of the oligomer it was incubated with N-maleimido-6-aminocaproyl 4-hydroxy-3-nitrobenzene sulfonate-derivatized horseradish peroxidase at 4 .degree.C for 2 days. Unreacted starting materials were sepd. from the end-products by chromatog. The conjugate was detectable by coincidence of peaks of absorbance at 260 nm and 402 nm (heme group of peroxidase).

L32 ANSWER 20 OF 43 CAPLUS COPYRIGHT 2002 ACS
AN 1987:440275 CAPLUS
DN 107:40275
TI **Phosphoramidite** compounds for use in oligonucleotide synthesis
IN Noyori, Ryoji; Hayakawa, Yoshihiro; Uchiyama, Mamoru; Kato, Hisatoyo; Chino, Yasuyoshi; Tahara, Shinichiro
PA Nippon Zeon Co., Ltd., Japan
SO Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 216357	A2	19870401	EP 1986-113090	19860923
	EP 216357	A3	19880831		
	R: DE, GB, SE				
	JP 62070389	A2	19870331	JP 1985-211240	19850925
	JP 06080070	B4	19941012		
	JP 62084096	A2	19870417	JP 1985-223138	19851007
	JP 06080071	B4	19941012		
	US 5026838	A	19910625	US 1988-229773	19880804
PRAI	JP 1985-211240		19850925		
	JP 1985-223138		19851007		
	US 1986-909728		19860922		

09567863

OS CASREACT 107:40275
GI



I

AB The title compds. [I; R1,R2 = protected OH, OR5; R3 = H, R1; R4 = allyloxycarbonyl-protected nucleoside base residue; R5 = POR6(R7) R6 = protective group, allylic residue; R7 = secondary **amine**] were prepd. for use in oligonucleotide synthesis. Thus, 5'-O-monomethoxytritylthymidine, tetrazole, and CH2:CHCH2OP(NMe2)2 in THF/MeCN were stirred at 0 .fwdarw. 25.degree. for 1.5 h to give 71% I [R1 = 4-MeOC6H4(C6H5)2 CO, R2 = OPN(CHMe2)2 OCH2CH:CH2, R3 = H, R4 = thymine base].

L32 ANSWER 21 OF 43 WPIDS (C) 2002 THOMSON DERWENT
AN 2002-706900 [76] WPIDS
DNC C2002-200480
TI Preparation of oligonucleotides used as diagnostic agents, research reagents and therapeutics comprises reacting nucleoside **phosphoramidite** with a support bound oligomer in presence of neutralizing agent.
DC B03 B04
IN GUZAEV, A P; MANOHARAN, M
PA (GUZA-I) GUZAEV A P; (MANO-I) MANOHARAN M; (ISIS-N) ISIS PHARM INC
CYC 98
PI WO 2002062811 A2 20020815 (200276)* EN 92p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW
US 2002147331 A1 20021010 (200276)
ADT WO 2002062811 A2 WO 2002-US2336 20020128; US 2002147331 A1 US 2001-775967 20010202
PRAI US 2001-775967 20010202
AN 2002-706900 [76] WPIDS
AB WO 200262811 A UPAB: 20021125
NOVELTY - Preparation of oligonucleotides comprises reacting a nucleoside phosphoramidite with a support bound oligomer having at least one unprotected internucleoside linkage in the presence of a neutralizing agent (A) comprising e.g. aliphatic **amine**, aliphatic heterocyclic **amine** or aromatic **amine**.

DETAILED DESCRIPTION - Preparation of oligonucleotides comprises reacting a nucleoside phosphoramidite with a support bound oligomer having at least one unprotected internucleoside linkage comprising a phosphate linkage, phosphorothioate linkage or phosphorodithioate linkage, in the presence of a neutralizing agent comprising an aliphatic **amine**, aliphatic heterocyclic **amine**, aromatic **amine**, aromatic heterocyclic **amine**, guanidine or a salt of formula D+E-.

D+ = quaternary tetraalkylammonium cation or a protonated aliphatic **amine**, aliphatic heterocyclic **amine**, aromatic **amine**, aromatic heterocyclic **amine** or guanidine, and

E- = tetrazolide anion, 4,5-dicyanoimidazolide anion, optionally

substituted alkylsulfonate anion, optionally substituted arylsulfonate anion, tetrafluoroborate anion, hexafluorophosphate anion or trihaloacetate anion.

INDEPENDENT CLAIMS are included for the following:

(1) forming an internucleoside linkage which comprises reacting a phosphoramidite of formula (I) with a compound of formula (II) in the presence of (A);

(2) a method which comprises deprotecting the 5'-hydroxyl group of a solid support having a 5'-O-protected phosphorus-linked oligomer having at least one phosphoryl internucleoside linkage that does not have a phosphoryl protecting group, washing with a solution containing (A), reacting the free hydroxyl with a 5'-protected nucleoside phosphoramidite to form a phosphite triester linkage and oxidizing or sulfurizing the covalent linkage to form a phosphodiester, phosphorothioate, phosphorodithioate or H-phosphonate linkage, and

(3) a composition comprising a 5'-protected nucleoside phosphoramidite and D+E-.

L1 = an internucleoside linkage;

n1 = 0-100;

R1 = OH protecting group;

R2 = 2'-substituent group;

R4, R5 = 1-10C alkyl or

NR4R5 = heterocyclyl;

B = a nucleobase;

Q, Z, X = O or S;

Pg = phosphoryl protecting group;

R3 = a linker connected to a solid support;

n = 1-100;

L = O-P(=X)(-Z-Y)-O, and

Y = phosphoryl protecting group or a negative charge, provided that at least one is a negative charge.

ACTIVITY - None given in the source material.

MECHANISM OF ACTION - Transcription factor inhibitor; Gene therapy.

USE - Useful as diagnostic reagents, research reagents and therapeutics for modulating the action of transcriptase factors.

ADVANTAGE - The method avoids the need for phosphoryl protecting groups.

Dwg.0/22

L32 ANSWER 22 OF 43 WPIDS (C) 2002 THOMSON DERWENT
AN 2002-674850 [72] WPIDS
CR 1997-393613 [36]
DNC C2002-190055
TI Composition useful for e.g. separation of nucleic acids comprises a positively or neutrally charged **phosphoramidite**.
DC B04 B05 D16
IN ALLAWI, H T; LYAMICHEV, V; NERI, B P; SKRZPCZYNSKI, Z; TAKOVA, T; WAYLAND, S R
PA (THIR-N) THIRD WAVE TECHNOLOGIES INC
CYC 100
PI WO 2002063030 A2 20020815 (200272)* EN 197p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
US 2002128465 A1 20020912 (200272)
ADT WO 2002063030 A2 WO 2002-US3423 20020206; US 2002128465 A1 CIP of US 1996-682853 19960712, CIP of US 1999-333145 19990614, US 2001-777430 20010206

09567863

FDT US 2002128465 A1 CIP of US 6001567
PRAI US 2001-777430 20010206; US 1996-682853 19960712; US 1999-333145 19990614
AN 2002-674850 [72] WPIDS
CR 1997-393613 [36]
AB WO 200263030 A UPAB: 20021108
NOVELTY - Composition comprises a positively or neutrally charged phosphoramidite.

DETAILED DESCRIPTION - Composition (c) or (c') comprises a positively charged phosphoramidite of formula (I) or a neutrally charged phosphoramidite of formula (II). (I) comprises nitrogen-containing chemical group selected from primary, secondary or tertiary **amine** or ammonium group. (II) comprises secondary or tertiary **amine** or ammonium group.

X, Z = a reactive phosphate group;
Y = a protected hydroxy group;
X' = a protected hydroxy group;
N, N' = an **amine** group.

INDEPENDENT CLAIMS are included for the following:

(1) a composition (c1) comprising a charge tag (x1) attached to a terminal end of a nucleic acid molecule, the charge tag comprises a phosphate group and a positively charged molecule;

(2) a composition (c2) comprising a nucleic acid molecule that comprises a positively charged phosphoramidite;

(3) a composition (c3) comprising a charge tag attached to the terminal end of a nucleic acid molecule, the charge tag comprises a positively charged phosphoramidite;

(4) a composition (c4) comprising a fluorescent dye directly bonded to a phosphate group, which is not directly bonded to an **amine** group;

(5) a mixture (m) comprising a number of oligonucleotides, each oligonucleotide is attached to a different charge tag with each charge tag comprising a phosphate group and a positively charged group;

(6) a composition (c5) comprising a solid support attached to a charged tag, the charge tag comprises a positively charged group and a reactive group configured to allow the charge tag to covalently attach to the nucleic acid molecule;

(7) separating nucleic acid molecules involving either:

(a) treating (m1) a charge-balanced oligonucleotide containing the charge tag to produce a charge-unbalanced oligonucleotide and separating the charge-unbalanced oligonucleotide from the reaction mixture; or

(b) treating (m2) a number of charge-balanced oligonucleotides, each containing different charge tags, to produce at least 2 charge-unbalanced oligonucleotides, and separating the charge-unbalanced oligonucleotides from the reaction mixture.

USE - The composition is useful for separation of nucleic acid molecules (claimed). The composition is further useful for fractionation of specific nucleic acids by selective charge reversal useful in e.g. INVADER assay cleavage reactions; and in the synthesis of charge-balanced molecules.

ADVANTAGE - In the fractionation of nucleic acid molecules, the method provides an absolute readout of the partition of products from substrates (i.e. provides a 100% separation). Through the use of multiple positively charged adducts, synthetic molecules can be constructed with sufficient modification due to the fact that the normally negatively charged strand is made nearly neutral. It is also possible to distinguish between a enzymatically or thermally degraded DNA fragments due to the absence or presence of 3'phosphate.

Dwg.0/46

L32 ANSWER 18 OF 43 CAPLUS COPYRIGHT 2002 ACS
AN 1993:626331 CAPLUS
DN 119:226331
TI Large scale synthesis of oligonucleotides via **phosphoramidite** nucleosides and a high-loaded polystyrene support
AU Wright, Peter; Lloyd, David; Rapp, Wolfgang; Andrus, Alex
CS Appl. Biosyst. Inc., Foster City, CA, 94404, USA
SO Tetrahedron Letters (1993), 34(21), 3373-6
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
AB Large scale quantities of phosphodiester and phosphorothioate oligonucleotides, e.g., TCACAGTCTGATCTCGAC, are synthesized on an aminopolyethylene glycol derivatized polystyrene (TentaGel) support. Efficient, automated synthesis up to 1 mmol scale is achieved with phosphoramidite nucleoside monomers and 5-ethylthiotetrazole activator.

L32 ANSWER 19 OF 43 CAPLUS COPYRIGHT 2002 ACS
AN 1990:139562 CAPLUS
DN 112:139562
TI **Phosphoramidite** reagents for functionalizing oligonucleotides with **amine**,hydroxyl, or thiol groups
IN Levenson, Corey; Chang, Chu An; Oakes, Fred T.
PA Cetus Corp., USA
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8902931	A1	19890406	WO 1988-US3212	19880919
	W: DK, FI, JP, NO				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 4914210	A	19900403	US 1987-104200	19871002
	EP 380559	A1	19900808	EP 1988-908841	19880919
	EP 380559	B1	19931222		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 03501383	T2	19910328	JP 1988-508099	19880919
	AT 98996	E	19940115	AT 1988-908841	19880919
	CA 1310600	A1	19921124	CA 1988-578519	19880927
	IL 87879	A1	19930610	IL 1988-87879	19880929
PRAI	US 1987-104200		19871002		
	EP 1988-908841		19880919		
	WO 1988-US3212		19880919		

OS MARPAT 112:139562
GI